8 - L implementation time, coercion

9 -

10 - static, dynamic

11 - range & values, set & operations

12 -

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QUIZZ#5: Chapter 5_Names

****

QUESTION ONE: Fill in blanks [6 pts]

7) A data type is _____ if it is either legal for the operator, or is allowed under language rules to be implicitly converted to a legal type.

8) The " INT " type in C++ is bound to a range of values at _____ time The process of automatic conversion of a variable type to another type by a compiler is called _____.

9) The type of an object can be determined using 3 ways: explicit (implicit) declaration statement, _____, and. _____

10) A procedure P1 is a _____ parent of a procedure P2 if P1 contains the definition of P2. A procedure P1 is a _____ parent of a procedure P2 if P1 calls P2.

11) The type of a variable defines: _____ and _____.

12) The lifetime of a static variable begins at _____ time and ends at _____ time.

QUESTION TWO: [4 pts]

```
Procedure main is
   X : integer ;
   Procedure sub1 is
   Begin
      X = X - 8 ;
      Put (X) ;
   End ;
   Procedure sub2 is
      X : integer;
   Begin
      X = 28 ;
      Sub1 ;
   End ;
Begin
   X = 48 ;
   Sub2 ;
End ;
```

Consider the given Ada-like program. The value of X printed by put(X):

Under static-scoped rules is _____

Under dynamic-scoped rules is _____

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QUESTION ONE: Fill in blanks

13) The process of automatic conversion of a variable type to another type by a compiler is called Coercion

14) The binding of a variable to a value at the time it is bound to storage is called initialization

15) In a dynamic-scoped language, the referencing environment is the local variables plus all visible variables in all active subprograms.

16) The type of a variable defines 2 things: the range of values and set of operation for that variables

17) The type of an object can be determined using 3 ways: [illegible], when used for assignment statement, and declaration statement.

18) "int" type in C++ is bound to a range of values at Language implementation time

19) The explicit heap dynamic variable has 2 variables associated with it

20) static dynamic variables are bound to storage when their declaration statements are elaborated.

QUESTION TWO: TRUE / FALSE

F 21) F A program that heavily uses aliases is more readable than a one without aliases.

T 22) T A procedure P1 is a static parent of a procedure P2 if P1 contains the definition of P2

T 23) T A call to a function may be bound to the function code at link time

F 24) F Subrange variables of integer type are compatible with integer types.

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QUESTION ONE: [4 pts]

```
Procedure main is
  X : integer ;

  Procedure sub1 is
    Begin
      X= X * 2;
      Put (X);
    End ;

  Procedure sub2 is
    X : integer;
    Begin
      X= 6 ; X= X *4;
      Sub1 ;
    End ;

  Begin
    X= 4; X= X * 5;
    Sub2 ;
  End ;
```

Consider the given Ada-like program. The value of X printed by put(X):

Under dynamic-scoped rules is : 48

Under static-scoped rules is 20

referencing

QUESTION TWO: Fill in blanks [6 pts]

7) The main disadvantage of global variables is lost value of variable.
The main disadvantage of static variables is do not support recursion

8) With Dynamic Type Binding (JavaScript and PHP), the type of a variable is specified using Assignment or referencing.

9) stack dynamic variables are allocated storage when a program unit/ block is entered and deallocated when it is exited. All attributes of initialization variables are bound every time they are assigned values.

10) The lifetime of a stack-dynamic variable begins at run time and ends at block compile time.

11) In a static-scoped language, the referencing environment consists of static global variable and all of the visible variables in dynamic active scopes.

12) For every assignment to a subrange variable, the initialization is done at compile time, and the range checking is done at run time

4.5

Student Name: Maitham Ahmed Student id: 20013738 Section #: 1

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QUESTION ONE: Fill in blanks

13) The process of automatic conversion of a variable type to another type by a compiler is called coersion Coersion Coersion coersion

14) The binding of a variable to a value at the time it is bound to storage is called initialization Static binding Initilization dynamic scoping

15) In a dynamic scoping language, the referencing environment is the local variables plus all visible variables in all active subprograms.

16) The type of a variable defines 2 things: the range of value and set of operation operation defines on that var context of the reference

17) The type of an object can be determined using 3 ways: automatic like fortran (i, j, k, L, otherwise erencing) when assigned to assignment statement, and declaration statement.

18) " int" type in C++ is bound to a range of values at language implementation time

19) The explicit heap dynamic Alias variable has 2 variables associated with it

20) Stack dynamic variables are bound to storage when their declaration statements are elaborated.

Stack dynamic
Stack dynamic

QUESTION TWO: TRUE / FALSE

F 21) F A program that heavily uses aliases is more readable than a one without aliases.

T 22) T A procedure P1 is a static parent of a procedure P2 if P1 contains the definition of P2

T 23) T A call to a function may be bound to the function code at link time

F 24) F Subrange variables of integer type are compatible with integer types.

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QUESTION ONE: Fill in blanks [6 pts]

7) A data type is _____ if it is either legal for the operator, or is allowed under language rules to be implicitly converted to a legal type.

8) The " INT " type in C++ is bound to a range of values at _____ time The process of automatic conversion of a variable type to another type by a compiler is called _____.

9) The type of an object can be determined using 3 ways: explicit (implicit) declaration statement , _____, and. _____

10) A procedure P1 is a _____ parent of a procedure P2 if P1 contains the definition of P2. A procedure P1 is a _____ parent of a procedure P2 if P1 calls P2.

11) The type of a variable defines: _____ and _____.

12) The lifetime of a static variable begins at _____ time and ends at _____ time.

QUESTION TWO: [4 pts]

```
Procedure main is
   X : integer ;
 Procedure sub1 is
   Begin
      X = X - 8 ;
      Put (X) ;
   End ;
 Procedure sub2 is
   X : integer;
 Begin
      X = 28 ;
      Sub1 ;
 End ;
Begin
   X = 48 ;
   Sub2 ;
End ;
```

Consider the given Ada-like program. The value of X printed by put(X):

Under static-scoped rules is _____.

Under dynamic-scoped rules is _____.

Student Name: Mohammed Abdulla h Radhi **Student id:** 20052416 **Section #:** 1

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****

QUESTION ONE: [4 pts]

```
Procedure main is
   X : integer ;
Procedure sub1 is
   Begin
      X = X * 2 ;
      Put (X) ;
   End ;
Procedure sub2 is
   X : integer;
    Begin
      X = 6 ; X = X *4;
      Sub1 ;
End ;
Begin
   X = 4 ; X = X * 5;
   Sub2 ;
End ;
```

Consider the given Ada-like program. The value of X printed by put(X):

Under dynamic-scoped rules is 24

Under static-scoped rules is 40

QUESTION TWO: Fill in blanks [6 pts]

7) The main disadvantage of global variables is destroy of Modularity.
The main disadvantage of static variables is Not variables outregard executing time.

8) With Dynamic Type Binding (JavaScript and PHP), the type of a variable is specified using assignment statement or declaration referencing.

9) explicit dynamic-heap variables are allocated storage when a program unit/ block is entered and deallocated when it is exited. All attributes of implict dynamic-heap variables are bound every time they are assigned values. implict dynamic-heap

10) The lifetime of a stack-dynamic variable begins at when we assign values to it run time and ends at the end of excution block time.

11) In a static-scoped language, the referencing environment consists of hidden global variable and all of the visible variables in global active scopes.

12) For every assignment to a subrange variable, the Type checking is done at compile time, and the range checking is done at run time

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QUIZZ#5: Chapter 5_Names

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QUESTION ONE: Fill in blanks

1) The 2 types of type compatibility are: name compatibility and structure compatibility

2) The lifetime of a ~~dynamic~~ stack dynamic variable is while the subprogram is active.

3) Dynamic Scope is based on the calling sequence of program units, not their spatial textual layout.

4) The lifetime of a global variable is the time of the program

5) A ~~compatibility~~ name compatibility type is one that is either legal for the operator, or is allowed under language rules to be implicitly converted to a legal type.

6) Stack-dynamic variables are allocated storage when the block is entered and deallocated when it is exited.

7) A strongly typed language is one in which each name in a program has a single type associated with it and that type is known at compile time and all the type errors are detected error detection implementation / run time

8) The ~~dynamic~~ explicit heap-dynamic variables are bound to storage that is allocated and deallocated by explicit run time instructions specified by the programmer.

explicit heap_type
explicit heap dynamic

7) type error are always detected.

QUESTION TWO: TRUE / FALSE

T 9) T The main disadvantage of global variables is that they destroy the program modularity.

F 10) F A procedure P1 is a dynamic parent of a procedure P2 if P2 calls P1.

F 11) F "*" is bound to multiplication operation at compile time // language design time.

T 12) T Computing the average of 3 test grades: the expression "average=(grade1+grade2+grade3)/3.0" is more readable than "av =(g1+g2+g3)/3.0".

: Name: Ali Hassan Alzayer Student id: 2002567 Section #: A

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QUIZZ#5: Chapter 5_Names

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ION ONE: [4 pts]

:e main is
nteger ;
ıre sub1 is
n ;
X=X*2;
Put (X) ;
;
ıre sub2 is
nteger;

X=20 ;
Sub1 ;

50 ;
2 ;

contain me

Consider the given Ada-like program. The value of X printed by put(X):

Under static-scoped rules is 100. 2.

Under dynamic-scoped rules is 40 2

who calls me

9.5

Excellent

ION TWO: Fill in blanks [6 pts]

he main disadvantage of static variables is that they do not support recursion.

he main disadvantage of global / stack dynamic variables is that they destroy the program modularity.

ıe 2 kinds of type compatibility are: name compatibility

ıd Structure compatibility.

ıe Explicit heap dynamic variables are bound to storage that is allocated

ıd deallocated by explicit run time instructions specified by the programmer. stack dynamic

ıriables are allocated storage when a program unit/ block is entered and deallocated when it is exited.

call to a function is bound to the function code at link time. The symbol

+" is bound to the additionation operation at language design time

ynamic Scope is based on the sequence of calls of program

ıits, not their spatial textual layout.

ı a dynamic scoping language, the referencing

ıvironment is the local variables plus all visible variables in all active subprograms.

Student Name: [redacted] Student id: [redacted] Section #: [redacted]

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****

QUESTION ONE: [4 pts]

```
Procedure main is
   X : real;
  Procedure sub1 is
    Begin
      X = X / 5 ;
      print (X) ;
    End ;
  Procedure sub2 is
    X : real;
      Begin
        X = 11 ; X = X*2;
        Sub1 ;
      End ;
Begin
   X = 6 ; X = X * 3;
   Sub2 ;
End ;
```

Consider the given Ada-like program. The value of X printed by **print** (X):

Under static-scoped rules is 7.6

Under dynamic-scoped rules is 9.4

QUESTION TWO: Fill in blanks [6 pts]

1) The lifetime of a static variable begins at ex. time and ends at term time.

2) With Dynamic Type Binding (JavaScript and PHP), the type of a variable is specified using assigment statement execution or declaration intr.

3) The type of a variable defines: —

and —

4) For every assignment to a subrange variable, the nonstatic variable range checker is done at run-time, and the type chen is done at compile time.

5) Stack Dynamic variables are allocated storage when a program unit/ block is entered and deallocated when it is exited. All attributes of Implicit dynamic heap variables are bound every time they are assigned values.

6) In a dynamic-scoped language, the referencing environment consists of Static local global variable and all of the visible variables in Static active subprog scopes.

5.5

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****

QUESTION ONE: Fill in blanks

3) The process of automatic conversion of a variable type to another type by a compiler is called ~~coercion~~ coercion. Coerion

4) The binding of a variable to a value at the time it is bound to storage is called initialization.

5) In a ~~dynamic~~ dynamic-scoped language, the referencing environment is the local variables plus all visible variables in all active subprograms.

6) The type of a variable defines 2 things: ~~range~~ range of possible value and set of operations.

7) The type of an object can be determined using 3 ways: explicit declaration, implicit declaration inferencing, and declaration statement. Assignment

8) " int" type in C++ is bound to a range of values at ~~compiler~~ compile time

9) The ~~heap~~ stack-dynamic variable has 2 variables associated with it

10) ~~structure type compatible~~ explicit heap dynamic variables are bound to storage when their declaration statements are elaborated. stack-dynamic stack_dynamic

QUESTION TWO: TRUE / FALSE

1) F A program that heavily uses aliases is more readable than a one without aliases.

2) T A procedure P1 is a static parent of a procedure P2 if P1 contains the definition of P2

3) T A call to a function may be bound to the function code at link time

4) F Subrange variables of integer type are compatible with integer types.

serial: 21

Student Name: Seyed Abbas Hash[illegible] **Student id:** 20064638 **Section #:** 1

4

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QUIZZ#5: Chapter 5_Names

****

QUESTION ONE: **[4 pts]**

```
void main ()
void sub1()
{    int a, b, c;
     ...    < ---- 1
}                          /* end of sub1    */
void sub2 ()
{ int b, c, d;
     ...    < ---- 2
     sub1;
 }                         /*  end of sub2    */

{ int a, c, d;             /* begin  of main */
     ...    < ---- 3
     sub2 ( );
 }                         /*  end of main    */
```

1) Assuming a dynamic -scoped language, the referencing environment at point 1 is:

a, b, c

2) Assuming a static -scoped language, the referencing environment at point 1 is:

a, c, d

QUESTION TWO: Fill in blanks **[6 pts]**

1) If a variable is dynamically bound to storage, the initial value can be random.
   If a variable is statically bound to storage, the initial value must be specified as a _____.
2) The lifetime of a static variable begins at the time of time of the program, and ends at _____ time.
3) With Dynamic Type Binding (JavaScript and PHP), the type of a variable is specified using assignement statement or type Inference
4) The type of a variable defines: set of operations and Range of values
5) For every assignment to a subrange variable, the Range checking is done at Run time, and the Type checking is done at compile time.
6) In a dynamic-scoped language, the referencing environment consists of local variables plus all of the visible variables in ~~start-time~~ calling sequence.